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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HASHEM, LISA	
ART UNIT	**PAPER NUMBER**
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5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/928,799	Applicant(s) YONEKURA, KUNITOSHI	
	Examiner Lisa Hashem	Art Unit 2645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/8-13-2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-19 are pending in this office action.

Information Disclosure Statement

2. An initialed and dated copy of Applicant's IDS form 1449, Paper No. 2, is attached to the instant office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2 and 7 recite the limitation "the time" in pages 36 and 38, respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Patent Application Publication No. US 2004/0012453 by Dally et al, hereinafter Dally.

Regarding claim 1, Dally discloses a phase lock oscillator comprising: an oscillating section having a phase-locked loop including a reactive element, for generating a signal with a predetermined frequency (see Abstract; section 0004, line 1 – section 0005, line 12; section

0007, lines 1-13; section 0071, lines 1-11); and a limit discriminating section for varying a reactance of said reactive element when discriminating an instant preceding an instant which is a limit in said phase-locked loop being capable of maintaining its lock state (section 0074, lines 1-13).

Regarding claim 2, Dally discloses a phase lock oscillator having a voltage controlled oscillator whose oscillation frequency varies according to a control voltage (section 0077, lines 1-31), wherein said voltage controlled oscillator comprises: a resonator (see Abstract; section 0004, line 1 – section 0006, line 9); a limit discriminating section for detecting that said control voltage reaches a predetermined value (section 0080, lines 7-9); and a controlling part for varying a resonance frequency of said resonator at the time of the detection by said limit discriminating section (section 0045, lines 1-13; section 0047, lines 1-7; section 0080, lines 12-18).

Regarding claim 3, Dally discloses a communication equipment (section 0002, line 1 – section 0007, line 13; see Figure 1) inherently comprising a transmitting part for transmitting transmission information by using an output signal of a phase lock oscillator which has a phase-locked loop including a reactive element and whose oscillation frequency varies according to an input signal (section 0080, lines 1-5), wherein said phase lock oscillator inherently comprises: a limit discriminating section for discriminating an instant preceding an instant which is a limit in said phase-locked loop being capable of maintaining its lock state (section 0080, lines 7-9); and a controlling part for starting a processing of varying a reactance of said reactive element at a first instant succeeding said preceding instant, when said preceding instant is detected by said limit discriminating section, in which said controlling part controls said transmitting part to transmit

said transmission information at a higher transmission rate than a transmission rate applied immediately before said preceding instant, the transmission being performed: during a specified period from an instant at which said preceding instant is detected, to said first instant; or after a predetermined time elapses from said first instant (section 0083, lines 1-18; section 0091, lines 1-22).

Regarding claim 4, the communication equipment according to claim 3, wherein Dally further discloses said controlling part controls said transmitting part to inherently transmit a signal for notifying an opponent communication equipment of a change in transmission rate before a beginning of said transmission at said higher transmission rate (section 0097, lines 1-10).

Regarding claim 5, Dally discloses a communication equipment (section 0002, line 1 – section 0007, line 13; see Figure 1) inherently comprising a receiving part for receiving a reception signal by using an output signal of a phase lock oscillator which has a phase-locked loop including a reactive element and whose oscillation frequency varies according to an input signal, wherein said phase lock oscillator inherently comprises: a limit discriminating section for discriminating an instant preceding an instant which is a limit in said phase-locked loop being capable of maintaining its lock state (section 0080, lines 7-9); and a controlling part for starting a processing of varying a reactance of said reactive element at a first instant succeeding said preceding instant, when said preceding instant is detected by said limit discriminating section, in which said controlling part controls said receiving part to perform a receiving processing of said reception signal at a higher transmission rate than a transmission rate applied immediately before said preceding instant, the reception being performed: during a specified period from an instant

at which said preceding instant is detected, to said first instant; or after a predetermined time elapses from said first instant (section 0083, lines 1-18; section 0091, lines 1-22).

Regarding claim 6, the communication equipment according to claim 5, wherein Dally further discloses a transmitting part for transmitting transmission information by using an output signal of said phase lock oscillator, and wherein said controlling part controls said transmitting part to inherently transmit a signal for notifying an opponent communication equipment of a change in said transmission rate, the transmission being performed during a specified period from an instant at which said preceding instant is detected, to an instant before said first instant (section 0097, lines 1-10).

Regarding claim 7, the communication equipment according to claim 3, wherein Dally further discloses said transmitting part inherently transmits transmission information at a power at the time of said transmission at said higher transmission rate, the power being larger than a power applied at transmission immediately before said preceding instant (section 0092, lines 1-4; section 0096, lines 1-13).

Regarding claim 8, the communication equipment according to claim 4, wherein Dally further discloses a response receiving section for inherently receiving a response transmitted from a receiving end which receives a notification transmitted from said transmitting part, the response being transmitted in response to the notification, and wherein said controlling part withholds a processing of varying said reactance of said reactive element until an instant at which said response is received (section 0097, lines 1-10).

Regarding claim 9, the communication equipment according to claim 3, wherein Dally further discloses said phase lock oscillator has a lock-up time t which is inherently equal to or

shorter than a product of: a difference between a ratio r of maximum to minimum values of a transmission rate applicable to both or one of transmitting and receiving, and `1`; and a length T of a period which is within said specified period and where a transmission rate is set to a value higher than the minimum value (section 0095, line 1 – section 0102, line 19).

Regarding claims 10, 12, 14, 16, and 18, please see the rejections of the communication equipment in claims 9, 11, 13, 15, and 17, respectively, to reject the communication equipment in claims 10, 12, 14, 16, and 18.

Regarding claim 11, the communication equipment according to claim 3, wherein Dally further discloses a ratio r of maximum to minimum values of a transmission rate inherently applicable to both or one of transmitting and receiving is set at a value equal to or larger than a sum of `1` and a ratio of a lock-up time t of said phase lock oscillator to a length T of a period which is within said specified period and where a transmission rate is set to a value higher than the minimum value (section 0095, line 1 – section 0102, line 19).

Regarding claim 13, the communication equipment according to claim 3, wherein Dally further discloses a length T of a period is inherently set to a value equal to or larger than a ratio of a lock-up time t of said phase lock oscillator to a difference between a ratio r of maximum to minimum values of a transmission rate and `1`, the period being a period which is within said specified period and where the transmission rate to be applied to both or one of transmitting and receiving is set at a value higher than the minimum value of the transmission rate (section 0095, line 1 – section 0102, line 19).

Regarding claim 15, the communication equipment according to claim 3, wherein Dally further discloses: said transmission information is inherently transmitted/received via a sequence

of multiplexed slots; and said transmission rate is set individually for each slot (section 0089, lines 1-25; section 0109, lines 1-4; see Figure 27).

Regarding claim 17, the communication equipment according to claim 3, wherein Dally further discloses a signal generated by said phase lock oscillator is inherently used as one of a carrier signal for transmission and a local-frequency signal for generation of the carrier signal (section 0093, lines 1-22).

Regarding claim 19, the communication equipment according to claim 5, wherein Dally further discloses a signal generated by said phase lock oscillator is inherently used as a local-frequency signal employed for heterodyne detection performed in a receiving process (section 0108, line 1 – section 0111, line 28).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- U.S. Patent No. 4,627,099 by Shimakata discloses a communication apparatus in which one of low and high frequency bands is used for transmission and the other band is used for receiving

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
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Or faxed to:

(703) 872-9314 (for formal communications intended for entry)

Or call:

(703) 306-0377 (for customer service assistance)

Hand-delivered responses should be brought to: Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa Hashem whose telephone number is (703) 305-4302. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (703) 305-4895. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

LH

lh
June 26, 2004

FAN TSANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600